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# CONTRIBUTIONS FROM THE ROCKY MOUNTAIN HERBARIUM. XII

## NEW PLANTS FROM IDAHO

AVEN NELSON

In this paper are continued the studies upon the plants of southern and western Idaho, begun in no. IX of this series of Contributions. As stated in the preceding paper, the present studies are based upon collections made in 1911, largely by Mr. J. FRANCIS MACBRIDE, but assisted in the field for a time by the writer. There are also included in this paper a few species based upon collections made by Miss JUNE A. CLARK, of Boise, at present a student in the Idaho State University. During 1911 she made very creditable collections of the plants of the mountains adjacent to Boise, and in the mountains of Washington County of her state.

**Melica Macbridei** V. H. Rowland, n. sp.—A green slender erect tufted perennial, 2-5 dm. high, growing from bulbs, which may be solitary or in clusters of 2-6: culms and sheaths (which exceed the internodes) hispid-scabrous on the prominent nerves: leaves exceeding the sheaths in length, usually 3 in number, the basal withering early, flat, thin, and weakly ascending, 1-4 mm. wide: panicle loosely open; rachis decreasingly scabrous toward the apex, with 3-9 nodes, the first internode 3.5-5 cm. long: rays 1-3 at each node of the rachis, if 3, the first subsessile, the second on a short pedicel, the third on a long capillary reflexed pedicel: spikelets 2-5-flowered, 7-13 mm. long, with terminal flower sterile, never flattened: glumes unequal, herbaceous, scarious-margined, quite often purple-tipped, oblong, acute; the first 4 mm. long, 3-nerved and about two-thirds as long as the second; the second 5-nerved, 6 mm. long: lemma thicker than and about equaling the second glume, lightly scabrous throughout, obtusely bifid: palet reaching to the notch in the lemma, 2-keeled, spathe-shaped with the lower part inclosing the white wormlike rachilla, ciliate on the keels from near the middle to the apex: fruit cylindrical with the divergent styles sometimes persistent.

This species is nearest to *Melica bromoides* Gray, from which it differs as follows: *M. Macbridei* is about one-half as high as *M. bromoides* and much slenderer and more graceful in appearance; it is much more scabrous and the roughness continues beneath the sheaths to very near the nodes of the culm; the sheaths exceed the internodes; the floral parts are shorter and wider than in *M. bromoides*; the nerves of the glumes and lemmas never extend to the margins; and lastly the rachilla between the flowers is smooth, white, and "wormlike" and never green as in the other.

This is number 948 of MACBRIDE'S 1911 collection of Idaho plants, secured on dry slopes at Silver City, June 20.

**Calochortus umbellatus**, n. sp.—Bulb small, ovoid to subglobose: stems slender, 3–5 dm. high, 2–3-leaved; lower leaf long, 4–8 mm. wide, from one-half to three-fourths as long as the stem; the other leaves narrowly linear (if only one, near the middle), 5–10 cm. long: flowers 3–9, in an umbel; pedicels slender, erect (in a fascicle), 5–10 cm. long; involucre bracts few—several, 2–4 cm. long, the ovate base scarious, abruptly narrowed to the long filiform green acumination: sepals lanceolate, acuminate, one margin more broadly scarious than the other, 25 mm. or less long: petals obovate-cuneate, the rounded summit more or less erose and abruptly apiculate or subacute, white, with an indigo or purple spot near the middle; the gland small, round, yellow, short-setose, some long soft filamentous hairs scattered over the lower half of the petal: filaments not much if any longer than the anthers, dilating gradually from apex to base: capsule ellipsoidal, about 15 mm. long, narrowly thin-winged, lightly transversely striate.

There is no doubt that this has passed as *C. nitidus* Dougl., to which it is closely related. The Idaho specimens seen by the writer cannot, however, well be so referred. PURDY has recharacterized *C. nitidus* in his excellent revision (Proc. Cal. Acad. Sci. III. 2:128. 1901) and the following facts, drawn from his description are in direct contrast with *C. umbellatus*: "Stems bulb-bearing near base, not bracted in the middle"; "umbel of 2–4 flowers subtended by 2–4 linear bracts"; "sepals ovate-lanceolate, exceeding the petals"; "petals 2 inches long, the same in width"; "filaments filiform, winged below"; capsule strongly winged and crested."

NELSON and MACBRIDE'S no. 1197, July 19, 1911, is taken as the type. The species seemed quite abundant on sagebrush lands near Wood River at Ketchum. Mr. C. N. WOODS has also secured it (no. 258) in the same county (Blaine). A specimen from Yellowstone Park by Mrs. E. W. SCHEUBER is also referable here.

**Zygadenus salinus**, n. sp.—Bulbs globose, or even depressed globose, not deep-set (4–8 cm.), 1–3 cm. in diameter; outer bulb-coats brown, thin, and fragile; the next succeeding ones delicately thin-scarious, glistening white: leaves green, grasslike, usually folded, scabrous on the margins, somewhat pruinose, especially on the greenish sheaths, 7–12 mm. broad, shorter than the scapose stems: stems slender, erect, 3–6 dm. high, with 2–3 non-sheathing linear leaves: raceme short, rather crowded; the pedicels slender, becoming 2–3 cm. long; the bracts with short ovate base and very long linear acumination, the lower as long as or longer than the pedicels: flowers in a simple raceme, yellowish-white; perianth segments nearly similar, 3–7-nerved, all clawed; the sepals with very short claw, ovate, obtuse; the petals elliptic, obtuse, with evident claw which is more or less concave or inrolled; the glands in both small, inconspicuous, and confined almost wholly to the upper part of the claw: stamens surpassing the perianth, on filaments only slightly dilated below: ovary free from the calyx; the styles 2–3 mm. long: fruit ovate, about 6 mm. long; the cells united to the summit.

I should hesitate to describe this as a new species were it not for the globose bulbs and the habitat. The near allies are *Z. venenosus* Wats. and *Z. intermedius* Rydb. These have elongated bulbs; the former has conspicuous glands, and the latter has all the leaves with scarious sheathing base. Both have deep-set bulbs, and belong to dry non-saline soil, while the proposed species was secured in alkali-bog lands, with the bulb but a few centimeters below the surface. It seems that typical *Z. venenosus* is confined to the coast states (see PIPER's Fl. Wash. 198, and BLANKINSHIP, Mont. Science Studies 1:45).

Type no. 889, MACBRIDE, Emmett, June 9, 1911.

**Salix boiseana**, n. sp.—A low shrub, forming clumps, 1–2 m. high: twigs glabrous, reddish brown or chestnut, slightly shining or obscurely glaucous: leaves oblong, either obtuse or subacute at apex, usually cuneately narrowed at base, 2–4 cm. long, minutely pubescent but green above, pale with a fine tomentum beneath, margin quite entire; stipules wanting: pistillate aments with two or three foliar bracts at base, 3–5 cm. long: floral bracts (scales) small, ovate, obtuse and brown, about half as long as the pedicels, long silky hairy below, especially near the apex and margin, gla-

brate above: pedicels slender, 1.5–2 mm. long; capsules glabrous, 3–4 mm. long: style evident but very short (less than 0.5 mm.).

This is most nearly allied to *S. Wolfii* Bebb, but seems to be distinct by the cuneate base of the leaves, which are glabrous or nearly so above, tomentose on the lower face (not silky-villous with shining hairs on both sides), by the longer pedicels, the slenderly virgate fertile stems (*S. Wolfii* is freely short-branched), and the longer fertile aments. *S. boiseana* belongs to lower altitudes and matures much earlier in the season.

Miss JUNE CLARK secured the type material (no. 48) in overripe condition, May 29, 1911, near Boise at an altitude of less than 3000 feet.

**Eriogonum fasciculifolium**, n. sp.—The shrubby base low (1–2 dm.) and somewhat di- or trichotomously branched; the more or less scaly bark dark brown or dirty black: leaves fasciculate or verticillate on the enlarged nodes, mostly on the crownlike apex of the branchlets, linear or narrowly oblanceolate, 1–3 cm. long, tapering to a short petiole, rather thick, pale-green, glabrate above, obscurely tomentose below: peduncles from the upper nodes or terminal, 4–8 cm. long, bearing a few-rayed umbel, lightly pubescent; the bracts foliar, apparently always few (2–4), or sometimes wanting: rays 12–20 mm. long: involucre many-flowered, campanulate, its ovate-oblong reflexed lobes as long as the tube, sparsely silky-villous: flowers pale yellowish-white, rather large: sepals similar, broadly obovate, about 5 mm. long, lightly silky-villous below and on the pedicel to the joint: filaments pubescent below, much shorter than the triangular glabrous achene.

This new member of § PSEUDO-UMBELLATA is at once distinguished by its branched shrubby base and its very narrow leaves, though it has all of the characteristics of the section.

A limited quantity only was secured by Miss JUNE CLARK at Tamarack, Washington County, Idaho, August 12, 1911, no. 236, on a dry mountain side.

**Stellaria (ALSINE) praecox**, n. sp.—A diminutive vernal species of arid districts: stems usually simple but sometimes branched from the base, glabrous except for some crisped hairs on the lower internodes, 7–15 cm. high (including the long filiform pedicels): leaves few, mostly in a basal rosette, with 1 or 2 pairs on the lower part of the nearly filiform stem, narrowly lance-linear, 5–12 mm. long: cyme unequally 3-rayed, some of the rays again unequally trichotomous; the bracts minute, somewhat scarious: sepals

lanceolate, scarious-margined, about 3–5 mm. long: petals wanting: stamens 5, opposite the sepals and less than half as long: stigmas 3, nearly sessile: capsule ellipsoidal, each of its 3 valves 2-toothed, shorter than the calyx; seeds several.

Some of its characters are suggestive of *S. umbellata* Turcz. (*Alsine baicalensis* Coville). That also is apetalous and has five stamens, but in it they alternate with the sepals. The capsule is oblong-ovoid and twice as long as the sepals. The seeds in the two seem nearly identical, with an almost annular embryo. The aspect of the two species of course is wholly different, *S. praecox* looking more like a very slender *S. longipes* Goldie.

The plant has added interest because many of the scarcely distorted capsules were found to be filled with a smut which Dr. CLINTON pronounces as new also, and to which he has given the name *Ustilago Stellariae*.

MACBRIDE secured this at Falk's Store, Canyon County, Idaho, on moist slopes, under sagebrush, no. 763, April 24, 1911.

**Crataegus tennowana**, n. sp.—Small treelike shrubs, 3–6 m. high, sometimes growing in clumps and then lower and less tree-like: trunk short, usually less than 1 dm. in diameter: spines straight, nearly at right angles, lustrous reddish-brown becoming grayish, about 15 mm. long (1–2 cm.): leaves mostly oval (varying to suborbicular) in general outline, both base and apex with rounded contour, often however cuneately narrowed below and more rarely above as well; the upper half from shallowly to deeply and irregularly serrate, the teeth with more or fewer gland-tipped serrulations; the lower half glandular serrulate or with a few sessile glands on the entire margins (occasionally the glands extend down upon the petiole which is only 2–10 mm. long); pubescence wanting from the first upon the petioles and on the underside of the leaves, sparsely and minutely hirsute on the upper side, especially along the veins, from the first to maturity; the veins of the rather thin leaves somewhat superficial on the lower side, the midrib flattened and narrowly wing-margined, at least in the young leaves: corymb wholly glabrous except for a slight pubescence on the inner face of the calyx lobes, 5–15-flowered, with scattering glands on the peduncle and pedicels and very rarely on the triangular-lanceolate persistent calyx lobes: stamens seemingly 8 when the styles and carpels are 4, and 10 when the styles and

carpels are 5 (the more unusual number); anthers pink: fruit black or purplish-black, maturing in July: carpels with rounded back, cuneately narrowed to the somewhat sulcate ventral angle, not narrowed at base.

This may be thought too near *C. Douglasii* Lindl., but authors are fairly well agreed that that species should have the following characters, to none of which this seems to attain:

Tree size (30-40 feet high, with trunk sometimes as much as 20 inches in diameter): leaves ovate to obovate, with cuneate base, densely pubescent above, on the veins below, and on the petioles when young: calyx lobes deciduous, glandular serrate: stamens 20 (SARGENT), 10-20 (BRITTON, ROBINSON, and FERNALD, *et al.*): anthers yellow: styles surrounded at the base with long pale hairs: fruit ripening in August and September: carpels narrowed at base.

In view of the differences indicated it would seem that at least some of the western forms that have heretofore passed as *C. Douglasii* need to be separated from it.

The type is MACBRIDE's no. 799 (flowers, May 10; ripe fruit, from naked tree, July 8), moist woods, Falk's Store, Canyon County.

**Trifolium tropicum**, n. sp.—Apparently green and glabrous but under a lens pubescent with scattering white hairs, especially near the midrib both above and below: stems single, from slender rootstocks, erect, slender, 2-3 dm. high: leaflets linear, 3-6 cm. long, 2-5 mm. wide, minutely denticulate by the projection of the beautifully arcuate nerves; petioles slender, from much shorter to much longer than the leaflets; stipules linear, the free portion usually denticulate, 14-18 mm. long, either shorter or longer than the adnate portions: heads about 2 cm. high, nearly as broad, solitary or 1 or 2 smaller ones from the upper leaf-axils, in bud silvery-silky with the long abundant hairs on the filiform calyx lobes: flowers purple to rose-red, soon reflexed and nearly concealing the pubescence of the calyx: calyx lobes longer than the thin scarious glabrate tube: standard oblong, with rounded apiculate apex, about 10 mm. long and 4 mm. broad when spread out flat; wings as long as the standard, the blade narrowly oblong, conspicuously auricled at base, as long as the slender claw; keel petals semi-oval, shorter than the wings, the claw longer than the blade: style a little longer than the stamens: ovary glabrous, about 8-ovuled.

Most nearly allied to *T. Harneyensis* Howell, from which it is at once separated by its pubescent leaves, sessile flowers (which are early, not tardily, reflexed), and glabrous calyx tube and ovary.

MACBRIDE'S no. 967, from Jordan Valley, Owyhee County, in moist loam soil, June 22, 1911, is the type.

**Lupinus tenuispicus**, n. sp.—Silvery-silky, with loose, copious, somewhat spreading and tangled hairs: perennial, in dense clumps on a woody caudex, 3–7 dm. high: stems rather slender, sparingly branched: radical leaves on slender petioles 1–2 dm. long; leaflets 6–9, narrowly oblanceolate or nearly linear, 4–6 cm. long; cauline leaves similar, shorter-petioled and (above) sessile: spikes slender, crowded, 5–15 cm. long: bracts small, linear-lanceolate, somewhat shorter than the nearly sessile calyx: calyx barely gibbous at base, about 5 mm. long: flowers blue: standard nearly orbicular, the blade pubescent on the back with fine long hairs (only visible under a good lens), 6–8 mm. long, sharply emarginate at apex; wing petals oval, on very short claws; keel petals small and delicate, the blade semi-ovate, on a claw half as long: pods very short, 1–3-seeded, pubescence as on the rest of the plant.

I can find no described species in this range having the very slender and crowded spikes, the small apparently glabrous petals, and the short few-seeded (often only one) pods of this form.

No. 203, by Miss JUNE CLARK, from Tamarack, in the mountains of Washington County, Idaho, August 8, 1911, is the type.

**Astragalus nudisiliquus**, n. sp.—Habit and appearance of *A. utahensis* T. & G., the white indument even thicker and more felted: caudex woody and freely branched: pod about 20 mm. long, probably at first white woolly-hirsute, the indument at length deciduous and disclosing the longitudinal striae, coriaceous-woody, ovoid, flattened dorsally, the acute apex abruptly flexed, the dorsal suture slightly keeled, the ventral somewhat sulcate.

When the writer collected this and first examined it later, he took it for granted that it was merely an over mature *A. utahensis*. On noting the character of the pod, however, it is evident that this is not the case. In that species the indument is permanent, both sutures are inflexed, the body of the pod is smaller, the apex is essentially straight, and, as a more strikingly characteristic difference, the striae are transverse. In view of these facts it seems best to put this species (which has no doubt passed for *A. utahensis*) on record.



Secured by NELSON and MACBRIDE on the steep cobblestone bluffs of the Snake River, at King Hill, Idaho, July 15, 1911, no 1088.

**Astragalus obfalcatus**, n. sp.—The woody taproot vertical, with an enlarged crown, or in older plants with closely branched caudex, the branches with enlarged crowns: stems solitary or few from the crown or crowns, stoutish, erect, coarsely striate, green and glabrate or sparsely hirsute with white hairs, few-leaved, 1–3 dm. high: leaves crowded on the crowns, somewhat spreading upon the nearly erect petioles (the dead petioles persisting), canescent with straight stiffish widely spreading coarse hairs; leaflets 7–13, from oblong (or spatulate) to elliptic or obovate, 10–20 mm. long; petioles 5–10 cm. long, those of the stem shorter: peduncles axillary, few-flowered: calyx tube 5–7 mm. long, the pubescence on it mostly finer and shorter, black in part, its linear lobes nearly as long as its tube: bracts linear, rarely as long as the calyx tube: pods widely divaricate, falcate upward, abruptly long-cuspidate, canescent with coarse hairs, completely 2-celled by the intrusion of the dorsal suture, the rounded back scarcely sulcate, somewhat flattened laterally to the almost carinate ventral edge, the stout stipe not as long as the calyx tube: seeds many.

In habit this species suggests *A. mollissimus* Torr. The shape of the leaflets and even the pubescence is somewhat similar, and the pod is 2-celled, but there the similarity ends. There are a few other species in which the pods are falcate upward, but *A. obfalcatus* approaches none of these as closely as it does *A. mollissimus*.

Secured by MACBRIDE (no. 1023) in dry lava soil, on Reynolds Creek, in Owyhee County, July 3, 1911 (full fruit; flowers not seen), and by NELSON and MACBRIDE (no. 1119), at King Hill, in loose lava cinders, July 15, 1911.

**Lathyrus Bradfieldianus**, n. sp.—Glabrous, mostly less than 1 m. high, stems weakly erect, among undershrub which give partial support, rather strongly striate but noticeably angled only on the more or less branched upper portion: leaflets mostly 10, subsessile, beautifully and rather strongly veined, bright green above, scarcely paler beneath, from broadly elliptic and obtuse (or even retuse) to narrowly ovate and acute, all subulate-tipped, 15–30 mm. long; tendrils well developed, somewhat branched; rachis moderately stout, the petiolar part usually shorter than the

internodes; stipules large, consisting of a triangular-lanceolate upper portion (which is entire and acute, or somewhat acuminate) and a much larger somewhat reniformly expanded basal part (which is usually coarsely and irregularly 3-5-toothed): flowers large, 3-8, closely approximated at the end of the long (10-15 cm.) axillary peduncles: calyx very oblique, the lanceolate teeth small, each shorter than the part of the tube to which it is attached, except the lower one which is linear and nearly as long as the tube: petals dark blue or purplish, lighter toward the base; the claw of the standard rather broad, sulcately folded and with conspicuous winglike crests at junction with abruptly flexed or reflexed reniform or orbicular emarginate blade; wings broadly elliptic, on a very slender claw shorter than the blade: pods nearly straight, 5-6 cm. or more long, 6-8 mm. broad, about 15-ovuled.

Resembling and related to *L. pauciflorus* Fernald, BOT. GAZ. 19:335, 1894, from which it is readily distinguished by its broad obtuse lower leaflets, its stipules with their remarkably expanded bases, its more numerous and larger and broader flowers, and always by the conspicuous rounded crownlike crests at the summit of the folded claw.

MACBRIDE'S no. 927, from Silver City, on brush covered hills, June 19, 1911, is the type. Mr. WILLIAM C. CUSICK'S no. 2538, from mountains near North Pine Creek, Oregon, is to be referred here, as well as Miss CLARK'S no. 85, from Boise (Clear Creek), July 4, 1911. The species is named in honor of Mr. A. D. BRADFIELD, superintendent of the Silver City schools, an appreciative student of his local flora, who spent much time in the field assisting Mr. MACBRIDE.

**Viola Clarkae**, n. sp.—Perennial from a woody sub-horizontal rather long rootstock, which bears a simple or branched caudex: branches of the caudex 1-4 cm. long, brown, and rough with the old petiolar bases: new plants often arising from the nodes of the rootstock at intervals of 2-5 cm.: herbage glabrous: stemless, or stems long (2-3 dm.), weak and procumbent and bearing several normal leaves: leaves mostly on the crowns of the caudex, crowded; the petioles very slender, 3-10 cm. long; the blade ovate, 2-5 cm. long, tapering rather gradually from near the base to the obtusish apex, the base roundish and shallowly cordate, the margin obscurely crenate and smooth; stipules greenish, linear, with few-many filiform pinnately arranged lobes or teeth: peduncles filiform, about

as long as the petioles, or if borne on the stems nearly as long as the whole of the subtending leaf: flowers (at least the late ones) rather small, blue: sepals lance-linear, less than half as long as the petals: lateral petals broadly spatulate, about 1 cm. long, a circular spot near one margin (toward the base) covered with rather long stiff white hairs; lower petals obovate, emarginate, 15–18 mm. long (including the straight spur with its abruptly bent acute tip): stigma obscurely pubescent: capsule smooth: seeds brown, with a pale conspicuous strophiole-like attachment.

There seems to be no near relative of this among the western species of *Viola*.

I have pleasure in dedicating this apparently strong species to Miss JUNE CLARK, of Boise, Idaho, who made an extensive collection of the plants, in duplicate, in her home neighborhood and in the mountains of Washington County, during the season of 1911. Her no. 84, from Clear Creek, in the Boise Mountains, July 4, 1911, is the type.

**CHRYSOTHAMNUS OREOPHILUS artus**, n. var.—Differing from the species in the stricter, narrowly racemose panicle, the filiform semi-cylindrical leaves, and the more glutinous involucre.

Secured by Miss CLARK, near Boise, September 1, 1911, no. 317. Collected also by HENDERSON at Nampa, July 30, 1897, and by CUSICK in Eastern Oregon, September 7, 1900, no. 2503. Distributed by them as an unnamed variety of *C. graveolens*.

**CHRYSOTHAMNUS PUMILUS latus**, n. var.—Distinguished from the species by the thin, flat, broad leaves (5–8 mm. wide) and the small cymose corymbs.

Were one to see just the herbage of this plant, it might readily be mistaken for some *Chrysopsis*.

NELSON and MACBRIDE'S no. 1236, Ketchum, Idaho, July 20, 1911, is typical. Certain numbers by other collectors seem to be more or less intermediate.

**ERIGERON FILIFOLIUS Bloomeri**, n. comb.—*E. Bloomeri* Gray, Proc. Am. Acad. 6:540. 1865; *E. fissuricola* A. Nels. in Herb.—Perhaps no better example has been afforded of that form of error which comes from founding a species upon a single collection, or even upon several, when those represent a mere fraction of the range of the plant as it later comes to be known, than is supplied by what we now know of *E. filifolius* and its near allies. Whether this

liability of making a mistake, because of lack of knowledge of the variability and range of the plant in hand, is so grave a matter that one ought to be deterred altogether from founding a species upon a single collection may well be questioned. No doubt there are those who would take the affirmative, but general adherence to such a practice is manifestly impossible and probably also undesirable. To begin with, it would bar out the amateurs and amateurs are the stuff out of which professionals (experts) are made. It would defer publication of even the best of species, often indefinitely, and that is to kill interest and delay development. There would be little incentive to make collections were it understood that some one in the next generation would make report upon all except the well known things. That it is desirable to avoid the making of useless synonyms cannot be too strongly emphasized, but even a few synonyms is to be preferred to stagnation and death.

Nevertheless, such an array as the following ought to secure renewed caution in the best of us and deep penitence in the worst of us. Those who lament (and that includes the "chiefest sinners") are prone to think that great facility (perhaps agility) in making synonyms is peculiar to the present generation. Let us see how these examples (scores of others, just as illuminating might be found) bear out that idea.

DOUGLAS collected two plants in the region of the Columbia which were described in HOOKER'S *Flora* (2:20. 1834) as *Diplopappus filifolius* and *D. linearis*. The first of these NUTTALL transferred, and it became *Erigeron filifolius* (Trans. Am. Phil. Soc. 7:328. 1841), although he probably did not himself know the plant, since the canescent paniculately branched stems and the yellow flowers mentioned by him do not belong together. In the meantime DECANDOLLE had based another name upon the same Douglasian collection, viz. *Chrysopsis canescens* (Prodr. 5:328. 1836), and in spite of the fact that he speaks of the flowers as yellow, the chances are that this name refers to *Diplopappus linearis*, at least in part, just as NUTTALL'S name does. In the TORREY and GRAY *Flora* (2:177. 1842) this difficulty is not cleared up, but the true facts are suggested, in part, while they are also obscured by the retention of NUTTALL'S *E. ochroleucum* (*loc. cit.*), to which HOOKER'S

*D. linearis* is referred. Following this, apparently not much is gained by the publication of *E. pumilus* Hook. (Lond. Journ. Bot. 6:242), nor the new combination (*E. canescens* Parry [Jones Exp.], no. 239), for GRAY refers both of these also to *E. ochroleucum*. GRAY in the *Synoptical Flora* (1:213. 1884) continues the confusion that had been increased by the publication of *E. peucephyllus* (Proc. Am. Acad. 16:89. 1880), in which characters belonging in part to both of HOOKER's species are combined.

These facts have been recited merely to show the impossibility of foreseeing the degree of variation or even the direction in which it will tend; hence the synonyms. Incidentally it shows that synonyms are inseparable from any period of great botanical activity, even when the work is in the hands of such veritable princes in systematic work as HOOKER, NUTTALL, TORREY, GRAY, and PARRY.

In 1865, GRAY published *E. Bloomeri* (Proc. Am. Acad. 6:540). Taking the material then available he was more than justified. It has taken nearly half a century of additional exploration to lead any one to question its validity. It happened that the first specimens of it represented it in its most depauperate stage, from the arid mountains of Nevada. Subsequent collections greatly extend its range, and a series of specimens leading straight into typical *E. filifolius* is now at hand, and may no doubt be duplicated in many of the larger herbaria. Even its raylessness is not an infallible character. MACBRIDE secured at Silver City, on a stony hilltop, a series of specimens that, if sorted and reported upon by one not familiar with their history, would appear as *E. Bloomeri* (rayless) and *E. filifolius* (radiate). These grew intermingled and were intentionally collected together and placed together upon the sheets to emphasize that fact. Under the circumstances one may even wonder why retain the name at all, but in view of the marked differences between the extremes in the series, perhaps the name had best stand varietally for the rayless forms.

In COULTER and NELSON's *New Manual of Botany* (p. 527), the opinion is expressed that *E. curvifolius* Piper, Bull. Torr. Bot. Club 27:396. 1900, is the same as *E. luteus* A. Nels., Bull. Torr. Bot. Club 27:33. 1899. More careful scrutiny indicates that that opinion

was not well founded. The *Chrysopsis hirtella* DC. Prodr. 5:327. 1836, upon which PIPER'S species was based, has a characteristic pubescence that separates it from *E. luteus* and *E. filifolius* as well. Since, however, there is nothing but its pubescence to separate it from the latter, it may as well become

**ERIGERON FILIFOLIUS curvifolius**, n. comb.

The status of *E. luteus* A. Nels (*loc. cit.*) cannot yet be passed upon with certainty. So far only the type collections are available, and these show some characteristics of habit and habitat that may denote its distinctness. If it is ever reduced it will be to separate varietal rank under *E. filifolius*.

**ERIGERON COMPOSITUS breviradiatus**, n. var.—Tufted on the crown of a solitary taproot, nearly glabrous: peduncles stouter and heads larger and broader than in the species: rays white to pale blue, broad, shorter than the disk flowers and barely surpassing the involucre bracts.

*E. compositus* Pursh already has more described varieties than it needs (see COULTER and NELSON, *New Manual*, p. 528), but the form here characterized is so unique that it needs to be catalogued in some way.

Secured by MACBRIDE at Silver City, June 17, 1911, no. 899.

**Cordylanthus** (ADENOSTEGIA) **bicolor**, n. sp.—Pilose throughout, with gland-tipped, subviscid hairs: stems mostly simple at base, rather freely branched upward, 3–5 dm. high: leaves 2–5 cm. long, linear and entire, or pinnately 3–5-divided; lateral lobes much shorter than the terminal, widely divaricate: heads terminating the branchlets, mostly 3 or 4-flowered, subtended by 4–6 foliar trifid bracts as long as or surpassing the flowers: calyx purple or purplish, diphyllous, the upper sepal 2-nerved, bifid, 10–12 mm. long; the lower oblong and entire, 3-nerved below, 5-nerved above, as long as or longer than the corolla: corolla purple, tipped with bright yellow, about 15 mm. long; the two lips equal, both appearing as if entire, but the lower with a rounded obtuse apex, the sides infolded and with an ovate tooth longer than the middle lobe; the sinuses plicate and having two thin lanceolate teeth: stamens 2; the anthers 1-celled, pubescent at both base and apex, the second cell represented by a pubescent rudiment, attached to the filament just below the fertile one; filament flattened and

with a U-shaped curve near the top: the stigma on the thickened inflexed tip of the style just protruding from the orifice of the folded galea-tip: capsule elliptic-oblong, few-ovuled, 4-6 maturing.

That this has passed for *C. capitatus* Nutt. seems quite probable. That it is in reality quite distinct the following differences indicate conclusively. No authentic specimens of *C. capitatus* are at hand, but it does not seem probable that NUTTALL, GRAY, WATSON, and others have all overlooked or that they would have been silent on the following points: the glandulosity; prevalence of pinnatifid leaves even below; the open panicle branching (not fasciculate-capitate); the bracts in excess of the flowers in the head; the unequal calyx leaves; the inflexed lateral lobes of the lower lip of the corolla; the lacinate plicae in its sinuses; the curved filaments and the rudimentary anther cell; and the beautiful purple of the flowers emphasized by the yellow, pubescent corolla tips.

Secured by NELSON and MACBRIDE on moist sagebrush slopes, at Ketchum, Blaine Co., July 20, 1911, no. 1239 (type); MACBRIDE, at Pinehurst, August 17, 1911, no. 1671.

**Pentstemon brevis**, n. sp.—Densely matted in tufts few-several dm. in diameter: roots woody, numerous, intricately interwoven: stems very numerous, borne on the crowns of the short slender subterranean branches of the caudex, usually 5-8 cm. high, though sometimes higher, very minutely puberulent as are also the leaves: leaves entire, moderately thick; the lower from oblong-elliptic to oblanceolate or spatulate, obtuse or subacute, 5-10 mm. long, tapering to a petiole often as long; stem leaves becoming sessile and narrower: inflorescence a narrow glandular-pubescent thyrse: calyx cleft into broadly lanceolate lobes 3 mm. or less long, rather thick and green except near the base: corolla dark-blue, slender, nearly tubular, 6-8 mm. long, bilabiate, with short rounded lobes and with short yellow pubescence in the throat and on the sterile filament: anthers dehiscent from the base and confluent but not explanate.

This species reminds one, in its low densely matted habit, of *P. caespitosus* Nutt., but in other respects it is more suggestive of a diminutive *P. humilis* Nutt. No one seeing these three species in the field, or even in dried specimens, will doubt their distinctness. *P. brevis* is alpine on wind swept summits.

NELSON and MACBRIDE, no. 1457, Lemhi Forest, Mackay, Custer County, Idaho, July 31, 1911. The only other specimen, seen by the writer, that approaches this species is CUSICK's no. 1974, from bleak summits of Stein's

Mountains, E. Oregon, distributed as *P. humilis*, but which it is not. CUSICK's specimen is larger in every way and less leafy on the stems.

**Artemisia potens**, n. sp.—Growing in small dense patches, the nearly simple virgate stems each from a long horizontal rootstock: stems rather slender, pale-green, slightly striate, minutely puberulent, 4–8 dm. high: leaves 3–6 cm. long, pale-green and glabrate above, thinly tomentose below, the margins revolute, simple or pinnatifid, the few (2–4) divaricate lobes and the body linear or nearly so: panicle narrow, dense, 7–15 cm. long: heads numerous, subspherical, 2–3 mm. high: involucral bracts oblong to oval, with greenish center, nearly glabrous, the delicately scarious margins appearing as if obscurely fringed: bracts linear, 1 or 2 to each cluster of 3–6 heads, longer than the heads they subtend and often nearly as long as the cluster: flowers 20 (more or fewer), the marginal ones pistillate, the inner perfect, all fertile: achenes glabrous.

In floral characters this is near *A. discolor* Dougl., but the aspect is that of *A. aromatica* A. Nels. or *A. redolens* Gray. In *A. potens* the heads form a long compact panicle and are as nearly erect as their crowded condition will permit. *A. discolor* has a woody caudex; *A. potens* is herbaceous to the ground. *A. discolor* grows in the moist rich soil of the mountains; *A. potens* on the dry saline-gravelly clays of the plains. The name refers to the overpowering but wholly characteristic *Artemisia* odor.

Type from Mackay, July 30, 1911, no. 1413, by NELSON and MACBRIDE.

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